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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,391	11/09/2001	Sheng-Shing Li	PP/1-22278/P5/CGC 2069	2361

7590 05/27/2004

Patent Department  
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EXAMINER

BOYD, JENNIFER A

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/045,391	<b>Applicant(s)</b> LI ET AL.	
	<b>Examiner</b> Jennifer A Boyd	<b>Art Unit</b> 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 17-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The Applicant's Amendments and Accompanying Remarks, filed March 15, 2004, have been entered and have been carefully considered. Claims 10 and 12 are amended, claims 22 – 24 are added, claims 13 – 16 are withdrawn and claims 1 – 12 and 17 – 21 are pending. In view of Applicant's amendments, the Examiner withdraws the 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejection of claims 10 – 12 as set forth in paragraphs 2 – 4 of the previous Office Action dated December 3, 2003. Despite these advances, the invention as currently claimed is not found to be patentable for reasons herein below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 102***

3. Claims 1 – 12, 17 – 18 and 20 remain rejected under 35 U.S.C. 102(e) as being anticipated by Mor et al. (US 6,146,757). The details of the rejection can be found in paragraph 6 of the previous Office Action dated December 3, 2003. The rejection is maintained. Newly added claim 23 is also rejected under 35 U.S.C. 102(e) as being anticipated by Mor et al. (US 6,146,757).

As to claim 23, Mor teaches a wettable fiber or filament having a thermoplastic polymer, a first wetting agent and a second wetting agent (column 7, lines 65 – 67 and column 8, lines 1 – 5). The Examiner equates the second wetting agent to Applicant's "additional melt blend

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component". Mor teaches that the second wetting agent can comprise a polyalkylene-modified polysiloxane (column 8, lines 29 – 53). It should be noted that the second wetting agent comprises a polysiloxane which would make the composition not of formula (I) as required by the Applicant. Mor teaches that the polyalkylene can be an alkoxylated fatty alcohol such as stearyl alcohol (column 9, lines 35 – 40). It should be noted that the compound can be considered to be aliphatic because it is not aromatic.

***Claim Rejections - 35 USC § 103***

4. Claims 19 and 21 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Mor et al. (US 6,146,757). The details of the rejection can be found in paragraph 8 of the previous Office Action dated December 3, 2003. The rejection is maintained. Newly added claims 22 and 24 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Mor et al. (US 6,146,757).

Mor teaches a wettable fiber or filament having a thermoplastic polymer, a first wetting agent and a second wetting agent (column 7, lines 65 – 67 and column 8, lines 1 – 5). The Examiner equates the second wetting agent to Applicant's "additional melt blend component". Mor teaches that the second wetting agent can comprise a polyalkylene-modified polysiloxane (column 8, lines 29 – 53). It should be noted that the second wetting agent comprises a polysiloxane which would make the composition not of formula (I) as required by the Applicant. Mor teaches that the polyalkylene can be an alkoxylated fatty alcohol such as stearyl alcohol (column 9, lines 35 – 40). It should be noted that the compound can be considered to be aliphatic because it is not aromatic.

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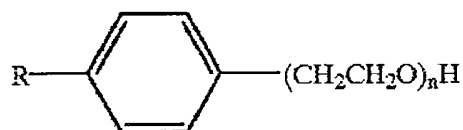
Mor discloses the claimed invention except for that the compound of formula (I) comprises  $R_1$  which is a straight or branched chain alkyl of 28, 30 or 32 carbon atoms and  $x$  is 2 or 3 as required by claim 22 and the additional component of ethoxylated stearyl alcohol to the melt blend is present in the amount of 2 moles as required by claim 24. It should be noted that the number of carbon atoms, amount of repeating monomer units and amount of moles of ethoxylated stearyl alcohol used in the composition are result effective variables. For example, as the amount of carbon atoms increase, the molecular weight increases resulting in a polymer with a higher melting temperature. As the  $x$  value increases, the amount of hydrophilic oligomer units increases making a more hydrophilic polymer. As the amount of additional component of ethoxylated stearyl alcohol increases, the fiber comprising the composition will have improved surface properties. It would have been necessary and obvious to optimize the amount of additional component used in the composition in order to successfully practice the invention of Mor and since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the amount of carbon atoms, amount of repeating monomer units and ethoxylated stearyl alcohol in order to create easily processed composition having the desired surface properties such as level of hydrophilicity.

### ***Response to Arguments***

5. Applicant's arguments filed March 15, 2004 have been fully considered but they are not persuasive.

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In response to Applicant's argument that there is no overlap of the disclosure of Mor with the present claims, the Examiner respectfully argues the contrary. As required by the Applicant in claim 1, Mor teaches a first wetting agent is preferably an ethoxylated alkylphenol having the following structure:



wherein n is a number from about 1 to about 10 and R is an alkyl group having from about 8 to about 22 carbon atoms (column 8, lines 20 – 45). Mor notes that n represents an average value as the length of the polyalkoxy chain can vary somewhat from molecule to molecule (column 8, lines 40 – 48). It should be noted that the structure  $(\text{CH}_2\text{CH}_2\text{O})_n$  is equated to Applicant's "ethylene oxide" and the alkyl group of R is equated to Applicant's "straight or branched chain alkyl". It should be noted that Mor teaches that the alkyl group can have 22 carbon atoms which meets Applicant's requirement of 22 to 40 carbon atoms. In newly added claim 22, the Applicant requires that the chain have 28, 30 or 32 carbons and has an x value of 2 or 3 which is not met by Mor but the Examiner submits that it is a parameter that may be optimized through experimentation to create a polymer with ideal surface characteristics. See the rejection above in paragraph 4.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

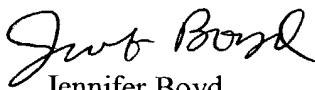
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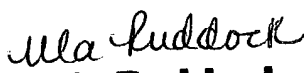
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jennifer Boyd  
May 25, 2004

  
**Ula C. Ruddock**  
Primary Examiner  
Tech Center 1700